

N^o 2608



A.D. 1911

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COMPLETE SPECIFICATION.

**Improvements in Points and Crossings for Tramways, Railways
and the like.**

We, EDGAR ALLEN AND COMPANY, LIMITED, of the Imperial Steel Works, Steel Manufacturers, FREDERICK BLAND, of 6, Kenbourne Road, Works Manager, and ERNEST LARMUTH, of 20, Sandford Grove Road, Engineer, all of Sheffield, in the County of York, do hereby declare the nature of our said invention and in
5 what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The object of our invention is to improve and simplify the means at present in use by which the movable tongue of a point or the renewable centre piece of a crossing, commonly called the insert, may be prevented from rising out of the
10 grooves in which they are respectively laid, and also by which the play caused by wear and tear of the said parts may be taken up and adjusted.

It has been proposed to construct appliances for this purpose which comprise an inclined bearing surface formed at the base of the enlarged rounded heel of the tongue which inclined surface engages a corresponding recess in the point
15 body, part of such point body forming the recess being made as loose fillet, which can be removed to allow of the insertion of the tongue in position, afterwards being secured by means of a nut and bolt or set screw. As a modification of the previously described arrangement it has been proposed to replace the loose fillet by a block inserted through a hole in the side of the point body, this
20 block having an inclined bearing surface which engages with the inclined surface of the rounded heel of the tongue, and being kept in contact therewith by a nut on a bolt or stud secured in the point body and passing through a hole in the said block.

Our invention though applicable to points and crossings made of ordinary cast
25 metal is more particularly applicable to such as are made of manganese steel or other hard metal which cannot be either drilled or tapped.

We carry out our invention both as regards points and crossings in the following manner which will be better understood on reference to the accompanying two sheets of drawings in which,

30 Fig. 1, (Sheet 1) is a transverse section taken through the centre or pivot of the tongue of the point.

Fig. 2, (Sheet 2) is a transverse section of a crossing taken near the bisecting point on the line A. B. (Fig. 4).

35 Fig. 3, (Sheet 2) is a transverse section through the same crossing taken on the line C. D. (Fig. 4).

Fig. 4, (Sheet 2) is a plan of the crossing to a reduced scale.

Fig. 5, (Sheet 2) is a portion of the side elevation of the insert shewing one of the three feet on which it rests in the body of the crossing.

The same letters refer to similar parts throughout the several views.

40 The lower portion of the enlarged part of the heel of the tongue, *a*, we form at an angle of 45° or thereabouts so that it presents a face on each side at right angles to the axes of the adjusting screws, *e*, which are passed through a hole cored out in the wall of the point box in a diagonal direction say approximately at an angle of 45°. When the tongue is in position the ends of these adjusting
45 screws, *e*, or liners, *f*, fitted thereon bear against the inclined faces of the heel

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Improvements in Points and Crossings for Tramways, Railways and the like.

of the tongue, and nuts, *l*, hold the adjusting screws in position. The liners, *f*, *f*, are adapted to fit the angle and curvature of the enlarged part of the heel of the tongue.

Sometimes we provide locking nuts, *l*¹, *l*¹, on the outer ends of the adjusting screws *e*, *e*, inside the external recesses, so that when the heel of the tongue has once been properly adjusted, the adjusting screws by which it is kept in position may be doubly locked by means of these nuts. 5

By the arrangement herein described the heads of the adjusting screws are brought so near the surface of the road that it is only necessary to form a comparatively small and shallow recess, *k*, on each side of the point box, *b*. We provide loose roughened covers or lids, *j*, to close these recesses, *k*. 10

As the body of a crossing, *b*¹, and the form of the insert, *a*¹, as illustrated in Figs. 2, 3, 4, and 5, are so similar in their transverse sections to the corresponding parts, *a*, and *b*, in the point as herein described and illustrated in Fig. 1, and as the appliances employed for securing and adjusting the parts are practically the same as the corresponding parts in the aforesaid arrangement, and as the same letters of reference are employed throughout the several views further recapitulation is unnecessary. 15

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:— 20

1. In tramway points and the like, which are made of manganese steel or other hard metal, the arrangement and combination of parts and appliances by means of which the movable tongue which has a portion of its heel formed with diagonal sides may be prevented from rising out of the groove of the point box and by means of which it may be adjusted and retained in position both longitudinally and transversely, comprising adjusting screws, *e*, *e*, placed at an angle of 45° or thereabouts on both sides of the heel of the tongue and nuts *l*, *l*, inserted into recesses through which the adjusting screws are screwed and locking nuts, *l*¹, *l*¹, placed on the outside of the adjusting screws; liners, *f*, *f*, at the ends of the adjusting screws adapted to the angle and curvature of the enlarged part of the heel of the tongue; recesses, *k*, formed in the body of the point box for obtaining access to the ends of the set screws, with lids, *j*, *j*, in the manner and for the purposes substantially as herein described and illustrated in Fig. 1 on the accompanying sheets of drawings. 25

2. In tramway crossings and the like, which are fitted with renewable plates or inserts made of manganese steel or other hard metal, the means by which the inserts are secured in the body of the crossing comprising adjusting screws, *e*, *e*, placed at an angle of 45° or thereabouts in both sides of the insert, *e*¹, and nuts, *l*, *l*, inserted into recesses into which the adjusting screws are secured; recesses, *k*, *k*, in the body of the crossing for obtaining access to the ends of the set screws with lids, *j*, *j*, in the manner and for the purposes substantially as herein described and illustrated in Figs. 2 to 5 on the accompanying sheets of drawings. 30 35 40

Dated this 31st day of January, 1911. 45

R. HEBER RADFORD, SON & SQUIRE,
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15, Saint James' Row, Sheffield.

[This Drawing is a reproduction of the Original on a reduced scale.]

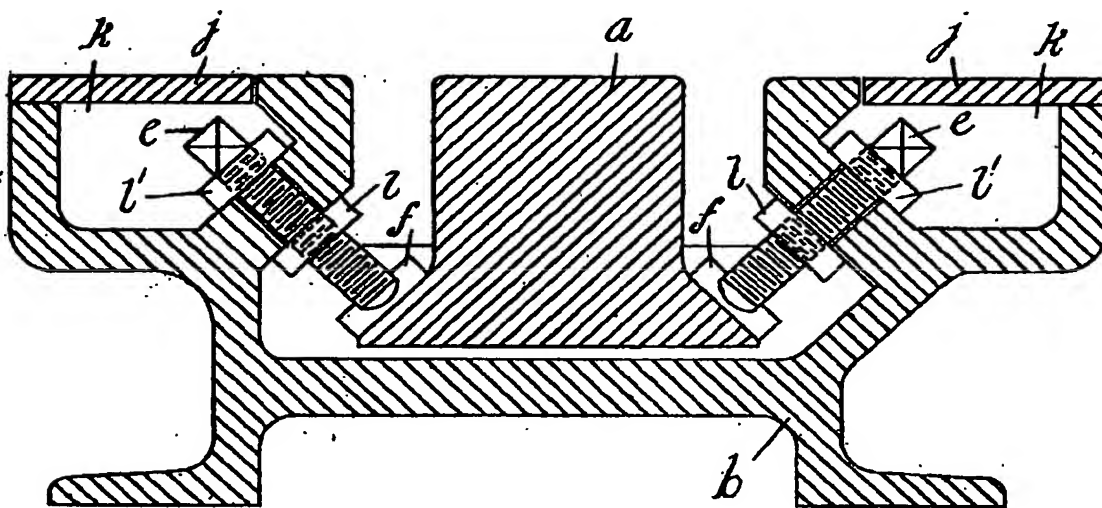


FIG. 1.

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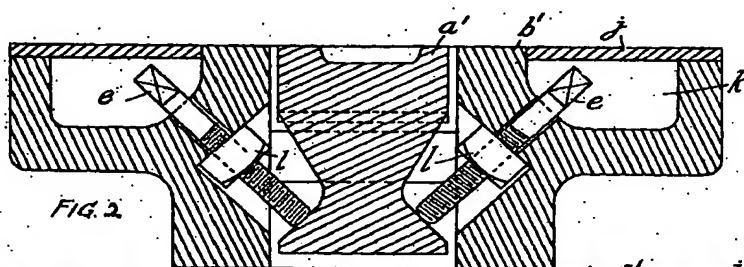


FIG. 2.

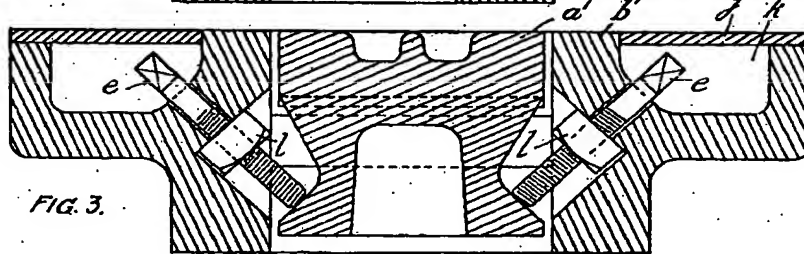


FIG. 3.

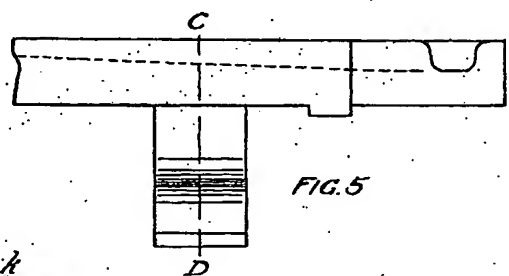


FIG. 5.

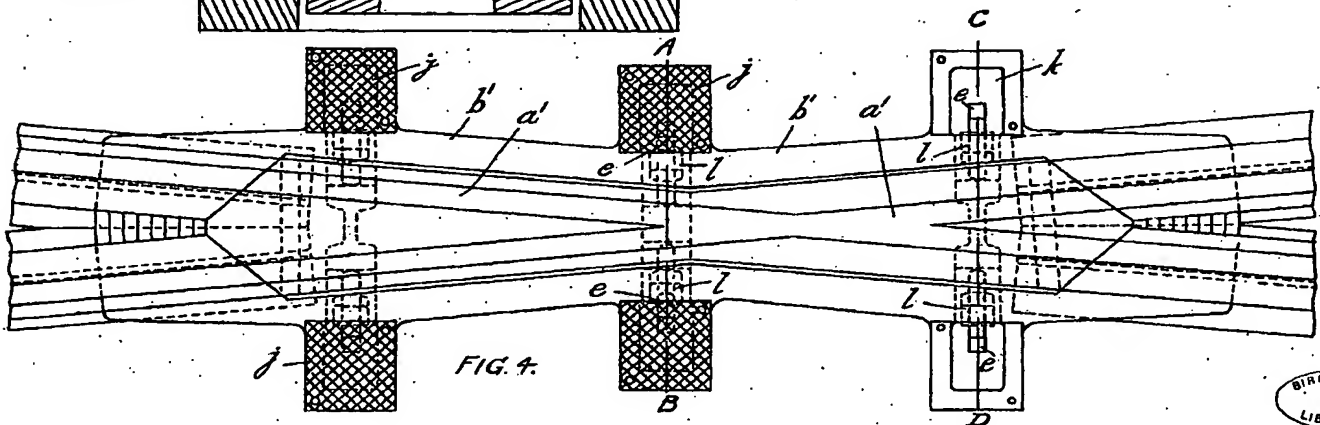


FIG. 4.

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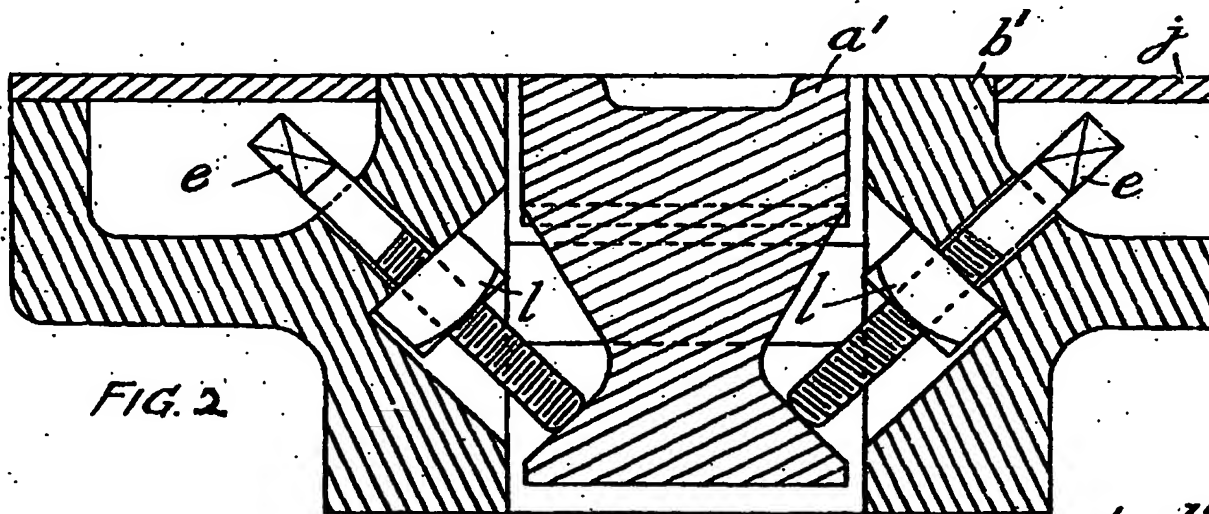


FIG. 2

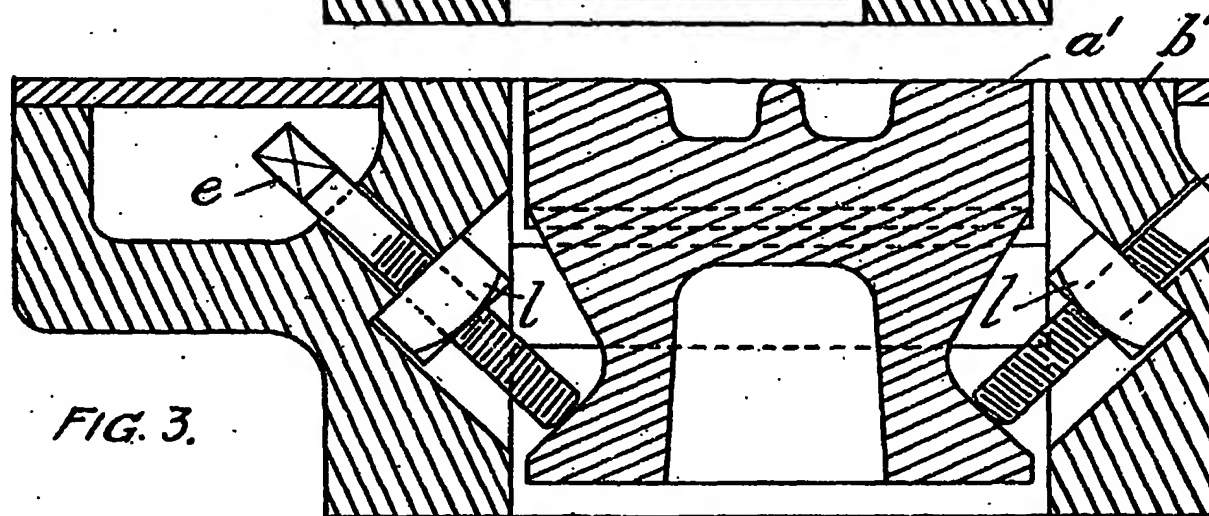


FIG. 3.

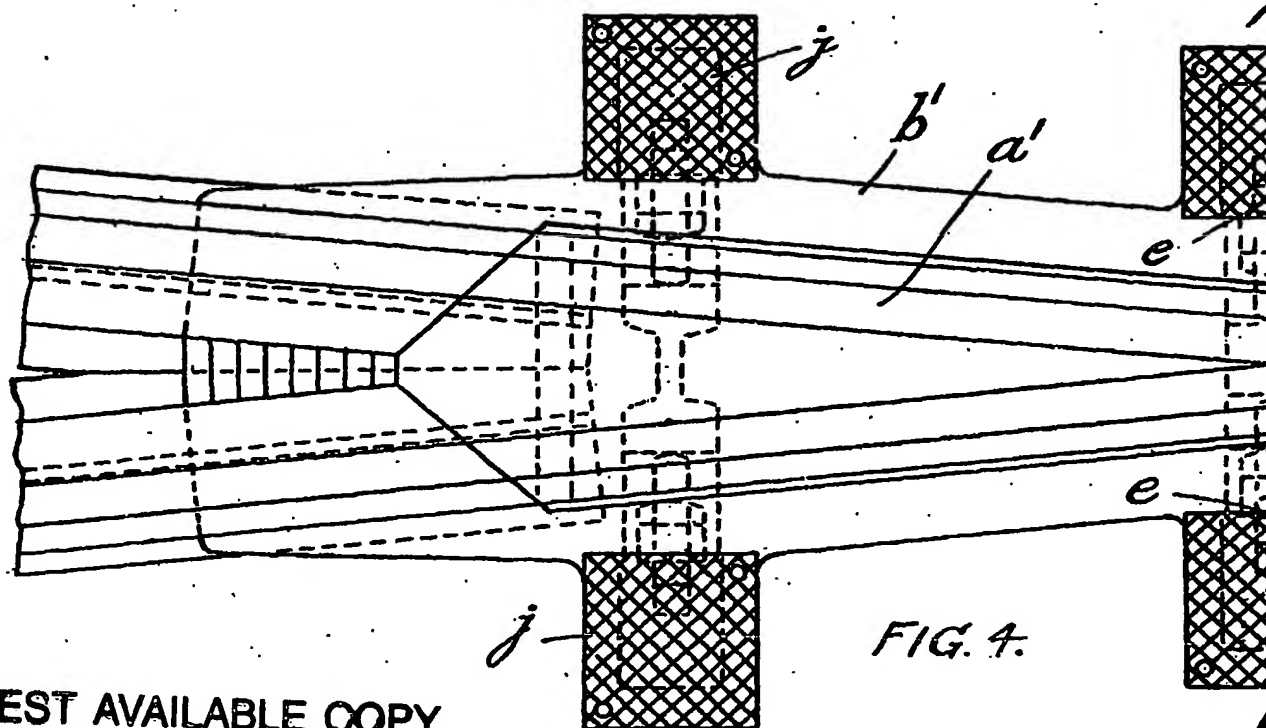
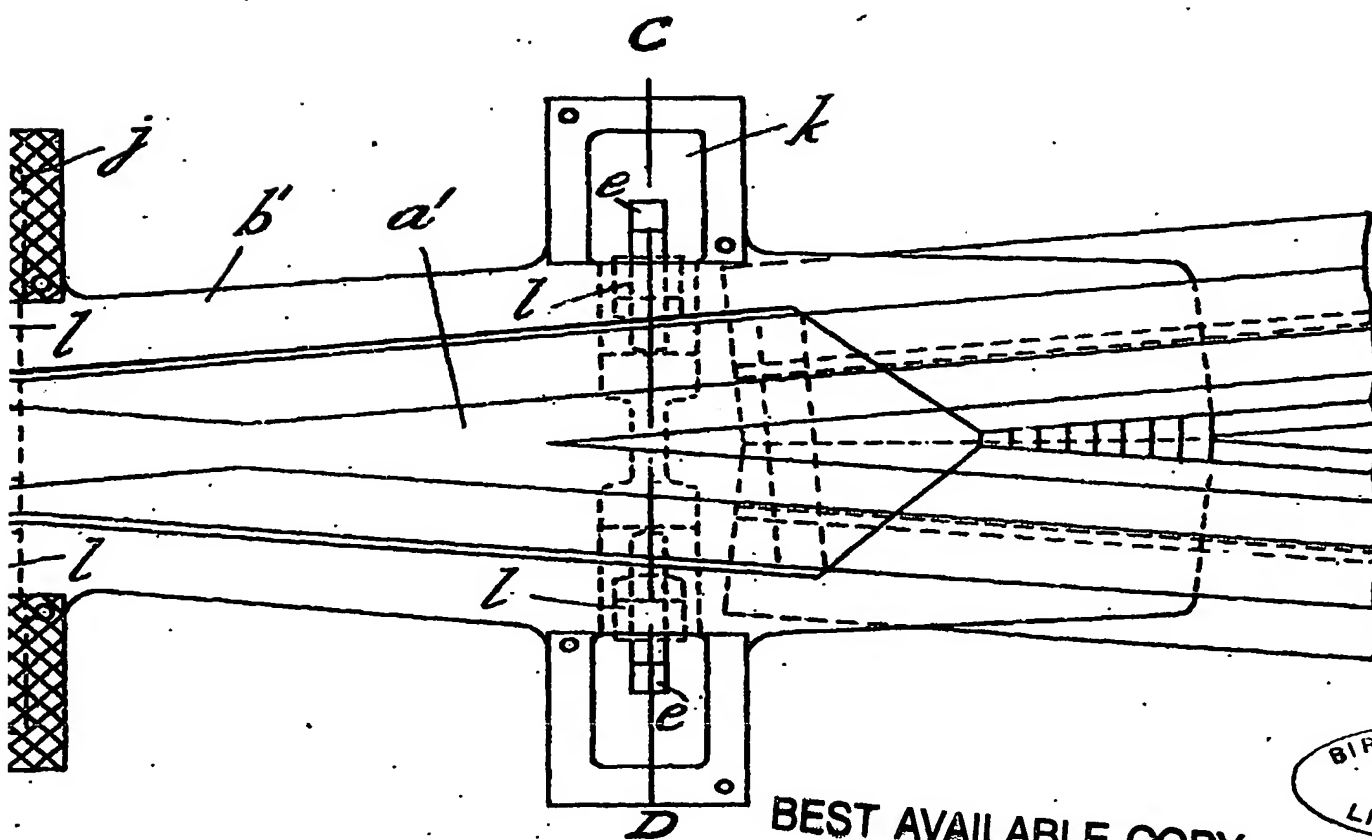


FIG. 4.



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